and recirculating system comprising a container, a connector including a probe having a flow passage therein, and a pump coupled with the probe for pumping fluid in the container through the probe. The system also includes "a fluid return channel extending longitudinally along an exterior of the probe adapted to return recirculated fluid to the fluid in the container such that air in the recirculated fluid is released from the fluid return channel before reaching the fluid in the container to prevent injection of air into the fluid in the container."

Claim 14 recites a probe for dispensing liquid from and returning liquid to a container comprising a flow passage, a fluid return port, and a fluid return channel in fluid communication with the fluid return port via a bore, the fluid return channel extending longitudinally along an exterior of the probe. The fluid return channel returns the liquid to liquid in the container such that air in the returned liquid is released from the fluid return channel before reaching the liquid in the container to prevent injection of air into the liquid in the container.

Claim 17 recites a method of dispensing and recirculating liquids comprising coupling a connector including a probe that defines a fluid passage, and "a fluid return channel extending longitudinally along an exterior of the probe," dispensing fluid from the container through the fluid passage, and refilling fluid into the container through the fluid return channel such that air in the refilled fluid is released from the fluid return channel before reaching the fluid in the container to prevent injection of air into the fluid in the container.

Van den Bergen et al. disclose a cap assembly 30 connected to a collapsible container 15 filled with process liquid. Cap assembly 30 comprises a body 28 having a central portion 29, a head portion 31, and a tail portion 32. An outlet passage 55 passes through body 28 to enable process liquid to be withdrawn from storage container 15, and an inlet passage 54 passes through body 28 to enable process liquid to be returned to storage container 15. Col. 5, lines 10-13. Passages 54 and 55 also pass through tail portion 32. Col. 5, lines 13-14.

Van den Bergen et al. do not teach a return flow path that "extend[s] longitudinally along an exterior" of the cap assembly body, as is required by claims 1, 14, and 17. The Office Action refers to outlet passage 55 as teaching a return flow path that "extend[s] longitudinally along

an exterior of the probe," as recited by claims 1, 14, and 17. However, outlet passage 55 enables process liquid to be *withdrawn* from storage container 15. Col. 5, lines 10-12. This is evidenced by the arrow pointing upwardly into outlet passage 55 in FIG. 1. Inlet passage 54, which is the element in Van den Bergen et al. that actually returns liquid to container 15, passes through body 28 and tail portion 32 such that inlet passage 54 is completely contained within the assembly. See, e.g., FIG. 1 and col. 5, lines 10-17. Thus, Van den Bergen et al. do not teach a return flow path that "extend[s] longitudinally along an exterior of the probe," as recited in claims 1, 14, and 17.

In addition, inlet passage 54 has an opening cross-section smaller than that of outlet passage 55, which enables the returning liquid to be pumped into container 15 at a linear speed higher than the linear speed with which it was withdrawn from container 15. Col. 5, lines 26-30. Such a speed difference sets up turbulence within the liquid in container 15, and to pump the returning liquid into container 15 at jet velocities, adding further to the turbulence within the liquid. Col. 5, lines 30-34. This achieves the stated goal of Van den Bergen et al., which is to assure the returned liquid is mixed with the liquid in container 15 so that the liquid withdrawn from container 15 is more representative of the bulk. Col. 5, lines 34-36. However, the turbulent return of fluid to container 15 induces the formation of air bubbles in the liquid. While the introduction of air bubbles may be inconsequential to the photographic sheet liquid in container 15 of Van den Bergen et al., many other fluids are rendered defective or unusable by the presence of air bubbles. See, e.g., page 2, lines 8-9 of the present application. Thus, the system of Van den Bergen et al. does not "prevent injection of air into the fluid in the container" as required by claims 1, 14, and 17. Therefore, the recited elements of claims 1, 14, and 17 are not disclosed by Van den Bergen et al., and the rejection of claims 1, 14, and 17 under 35 U.S.C. § 102(b) should be withdrawn.

Claim 13 was rejected under 35 U.S.C. §103(a) as being unpatentable over Van den Bergen et al. in view of Priebe et al. As discussed above, claim 1 is in a condition for allowance. Claim 13 depends from allowable claim 1, and as such is allowable with its independent base claim. In addition, it is respectfully submitted that the combination of features recited in claim 13 is patentable on its own merits, although this does not need to be specifically addressed herein since

any claim depending from a patentable independent claim is also patentable. See MPEP 2143.03, citing *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

Double Patenting

Claims 1 and 13 were provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1 and 8 of copending Application No. 10/247,107 in view of Van den Bergen et al. The Office Action states that Application No. 10/247,107 fails to teach "a fluid return channel extending longitudinally along an exterior of the probe." Office Action, page 8. The Office Action supplied this deficiency in Application No. 10/247,107 by turning to the disclosure of Van den Bergen et al. However, Van den Bergen et al. do not supply this deficiency. As described above, inlet passage 54, which is the element in Van den Bergen et al. that returns liquid to container 15, passes through body 28 and tail portion 32 such that inlet passage 54 is completely contained within the assembly. See, e.g., FIG. 1 and col. 5, lines 10-17. Van den Bergen et al. do not teach that inlet passage 54 "extend[s] longitudinally along an exterior of the probe" as is required by claim 1. Thus, claims 1 and 13 are not merely obvious variations of claims 1 and 8 of copending Application No. 10/247,107 in view of Van den Bergen et al., and the double patenting rejection on this basis should accordingly be withdrawn.

Withdrawn Claims

Claims 3, 15, and 21 were previously withdrawn from consideration as being drawn to a non-elected species. Claim 3 depends from allowable independent claim 1, claim 15 depends from allowable claim 14, and claim 21 depends from allowable claim 17. Thus, claim 3, 15, and 21 should also be considered and allowed, since they depend from an allowable generic independent claim. See MPEP 809.02 and 37 C.F.R. 1.146.

CONCLUSION

In view of the foregoing, it is believed that all claims in the present application are in condition for allowance. Reconsideration and allowance of claims 1, 2, 4-14, 16-20, and 22-24 are respectfully requested. In addition, claims 3, 15, and 21 should also be considered and allowed, since they depend from allowable generic independent claims 1, 14, and 17, respectively. A Notice of Allowance with respect to all claims 1-24 is respectfully requested.

Respectfully submitted,

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